

The invention is claimed as follows:

1. A tool for cutting or crimping a workpiece comprising:

a first lever having first and second ends;

5 a second lever having first and second ends;

first means for pivotally fastening said first and second levers to one another;

a first jaw which is fixed to said first means;

a second jaw which is movable and has a blade portion formed along an inner edge thereof and a plurality of teeth formed along an outer edge thereof;

10 second means for pivotally fastening said second jaw to said first jaw, said blade portion of said second jaw being adapted to be placed about the workpiece and moved toward said first jaw to envelope the workpiece between said first and second jaws;

a first member being adapted to engage with said plurality of teeth;

15 means for attaching said first member to said first means, said first member being capable of moving relative to said first means;

a second member adapted to engage with said plurality of teeth, said second member being pivotally connected to said first means; and

a third member adapted to engage with said plurality of teeth, said third member being pivotally connected to said first means.

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2. A tool as defined in claim 1, wherein said first means includes a first member fastened to said first lever and a second member fastened to said second lever.

3. A tool as defined in claim 2, wherein said first jaw is connected to said second member of said first means.

4. A tool as defined in claim 2, wherein said attaching means fastens said first pawl to said first member of said first means.

5. A tool as defined in claim 4, wherein said first member of said first means includes a slot and said attaching means includes a pin slidably mounted in said slot and a normally expanded spring which biases said first member toward said plurality of teeth.

6. A tool as defined in claim 2, said second member is pivotally attached to said first member of said first means.

7. A tool as defined in claim 2, wherein said third member is pivotally attached to said second member of said first means.

8. A tool as defined in claim 7, wherein said third member is pivotally attached to said second member of said first means by a pin and a torsion spring.

9. A tool as defined in claim 1, further including means for automatically returning said second jaw from a closed position to an open position.

10. A tool as defined in claim 9, wherein said second member includes a first indent and a second indent; and

wherein said automatically returning means includes:

a pair of stops provided on said second jaw,

5 a member having a first end and a second end, said first end being attached to said second means, said member being capable of abutting against said stops,

a normally expanded spring attached to said member,

a pin attached to said normally expanded spring and selectively engageable with one of said first indent of said second member and said second indent of said second member, and

10 a normally contracted spring attached to said second jaw and said first jaw.

11. A tool as defined in claim 9, wherein said automatically returning means includes means to disengage said first member from said plurality of teeth and a normally contracted spring attached to said second jaw and said first jaw.

12. A tool for cutting or crimping a workpiece comprising:

a pair of handles;

a first jaw which is fixed to one of said handles;

a second jaw which is movable and is pivotally mounted to said first jaw, said second jaw

5 having a blade portion formed along an inner edge thereof and a plurality of teeth formed along an outer edge thereof;

first means for selectively engaging said plurality of teeth of said second jaw, said first means advancing said second jaw toward said first jaw by a predetermined number of tooth spaces each time said handles are moved toward each other; and

10 second means for selectively engaging said plurality of teeth of said second jaw, said second means advancing said second jaw toward said first jaw by more tooth spaces than said predetermined number of tooth spaces each time said handles are moved away from each other until said second jaw meets resistance with the workpiece, said second means includes a pawl operatively associated with one of said handles, said pawl being adapted to engage with said  
15 plurality of teeth, said pawl being biased toward said plurality of teeth, said pawl has a base portion and a pair of extending portions which extend from opposite ends of said base portion and from a first end of said base portion to a second end of said base portion, a height of said extending portions proximate to said second end of said base portion is smaller than a height of said extending portions proximate to said first end of said base portion, each of said extending  
20 portions further having an aperture therethrough proximate to said first end of said base portion.

13. A tool for cutting or crimping a workpiece comprising:

a pair of handles;

a first jaw which is fixed to one of said handles;

a second jaw pivotally mounted to said first jaw, said second jaw having a blade portion

5 formed along an inner edge thereof and a plurality of teeth formed along an outer edge thereof;

first means for selectively engaging said plurality of teeth of said second jaw, said first

means advancing said second jaw toward said first jaw by a predetermined number of tooth

spaces each time said handles are moved toward each other, said first means includes a pawl

operatively associated with one of said handles, said pawl of said first means having teeth

10 thereon which are adapted to mesh with said plurality of teeth of said movable jaw, said pawl of

said first means is a block having three corners and three sides with one of said corners being

rounded, said pawl of said first means has an aperture therethrough proximate to said rounded

corner, said side which is opposite said rounded corner has said teeth thereon proximate to one of

said other corners, said pawl of said first means further having a pair of indents therein next to

15 said teeth on said side which is opposite said rounded corner; and

second means for selectively engaging said plurality of teeth of said second jaw, said

second means advancing said second jaw toward said first jaw by more tooth spaces than said

predetermined number of tooth spaces each time said handles are moved away from each other

until said second jaw meets resistance with the workpiece, said second means includes a pawl

20 operatively associated with said handles, said pawl of said second means being adapted to engage

with said plurality of teeth of said second jaw, said pawl of said second means being biased

toward said plurality of teeth of said second jaw.

14. A tool for cutting or crimping a workpiece comprising:

a pair of handles;

a first jaw which is fixed to one of said handles;

a second jaw pivotally mounted to said first jaw, said second jaw having a blade portion

5 formed along an inner edge thereof and a plurality of teeth formed along an outer edge thereof;

first means for selectively engaging said plurality of teeth of said second jaw, said first

means advancing said second jaw toward said first jaw by a predetermined number of tooth

spaces each time said handles are moved toward each other, said first means includes a pawl

operatively associated with one of said handles, said pawl of said first means having teeth

10 thereon which are adapted to mesh with said plurality of teeth of said second jaw; and

second means for selectively engaging said plurality of teeth of said second jaw, said

second means advancing said second jaw toward said first jaw by more tooth spaces than said

predetermined number of tooth spaces each time said handles are moved away from each other

until said second jaw meets resistance with the workpiece, said second means includes a pawl

15 operatively associated with said handles, said pawl of said second means being adapted to engage

with said plurality of teeth of said second jaw, said pawl of said second means being biased

toward said plurality of teeth of said second jaw, said pawl of said second means has a base

portion and a pair of extending portions which extend from opposite ends of said base portion

and from a first end of said base portion to a second end of said base portion, a height of said

20 extending portions proximate to said second end of said base portion is smaller than a height of

said extending portions proximate to said first end of said base portion, each of said extending

portions further having an aperture therethrough proximate to said first end of said base portion.

15. A tool for cutting or crimping a workpiece comprising:

a pair of handles;

a first jaw which is fixed to one of said handles;

a second jaw which is movable and has a blade portion formed along an inner edge

5 thereof and a plurality of teeth along an outer edge thereof, said second jaw being pivotally mounted to said first jaw;

means for advancing said second jaw from an open position to a closed position wherein said blade portion of said second jaw is distal to said first jaw in said open position and is proximate to said first jaw in said closed position, said advancing means including first and  
10 second members for selectively engaging said plurality of teeth of said second jaw, said first member advancing said second jaw toward said first jaw by a predetermined number of tooth spaces each time said handles are moved toward each other, said second member advancing said second jaw toward said first jaw by more than said predetermined number of tooth spaces each time said handles are moved away from each other until said second jaw meets resistance with  
15 said workpiece; and

means for automatically returning said second jaw from said closed position to said open position.

16. A tool as defined in claim 15, wherein said advancing means further includes a third  
20 member for preventing said second jaw from moving toward said open position when said handles are being moved toward and away from one another, said third member capable of engaging with said plurality of teeth of said second jaw.

17. A tool as defined in claim 15, wherein said first member is a pawl operatively associated with one of said handles, said pawl having teeth thereon which are adapted to mesh with said plurality of teeth of said second jaw.

5 18. A tool as defined in claim 15, wherein said second member is a pawl operatively associated with one of said handles, said pawl being adapted to engage with said plurality of teeth of said second jaw, said pawl being biased toward said plurality of teeth.

19. A tool as defined in claim 15, wherein said first member further has a first indent and a  
10 second indent; and

wherein said automatically returning means includes:

a pair of stops provided on said second jaw,

a member having a first end and a second end, said first end being pivotally mounted to said second jaw, said member being capable of abutting against said stops,

15 a normally expanded spring attached to said member,

a pin attached to said normally expanded spring and selectively engageable with one of said first indent of said first member and said second indent of said first member, and

a normally contracted spring attached to said second jaw and said first jaw.

20. A tool for cutting or crimping a workpiece comprising:

a first lever having first and second ends, said first lever having a handle portion at said first end thereof;

5 a first member having first and second ends and a middle portion, said middle portion of said first member having a slot therethrough, said second end of said first lever being fixedly connected to said middle portion of said first member;

a second member having first and second ends, said second end of said second member being connected to said second end of said first member;

10 a third member having first and second ends, said second end of said third member being connected to said second end of said first member;

a second lever having first and second ends, said first lever having a handle portion at said first end thereof, said second end of said second lever being fixedly connected to said first end of said third member;

15 a first jaw which is fixed to one of said levers and has a blade portion formed along an inner edge thereof, said first jaw being connected to said second end of said second member;

a second jaw which is movable and has a blade portion formed along an inner edge thereof and a plurality of teeth formed along an outer edge thereof, said second jaw being pivotally connected to said first jaw;

20 a fourth member having first and second ends, said first end of said fourth member being connected to said second end of said third member;

a first pawl adapted to engage with said plurality of teeth, said first pawl being slidably connected to said first member within said slot of said member;

a first normally expanded spring positioned between said first lever and said first member, said first normally expanded spring abutting against said first pawl such that said first pawl is biased toward said plurality of teeth;

5 a second pawl having teeth thereon which are adapted to engage with said plurality of teeth, said second pawl having a first indent and a second indent provided therein, said second pawl being connected to said second end of said first member;

a third pawl having teeth thereon which are adapted to engage with said plurality of teeth, said third pawl being connected to said first jaw;

10 a torsion spring positioned between said third pawl and said first jaw, said second end of said third member and said third pawl being connected to said torsion spring;

a fifth member having first and second ends, said first end of said fifth member being connected to said second end of said first member, said second end of said fifth member being connected to said second end of said fourth member;

15 a sixth member having first and second ends, said first end of said sixth member being connected to said second end of said first member, said second end of said sixth member being connected to said first jaw;

a normally contracted spring positioned between said first jaw and said second jaw;

a reversing member having first and second ends, said second end of said reversing member being connected to said second end of said fifth member and to said second jaw;

20 a second normally expanded spring positioned between said reversing member and said second jaw;

a pin attached to said second normally expanded spring, said pin being selectively

engageable with one of said first indent of said second pawl and said second indent of said second pawl; and

first and second stops connected to said second jaw.

5      21.      A method of automatically returning a first, movable jaw of a tool from a closed position to an open position, said method comprising the steps of:

10            a)      providing said tool having a pair of handles, said tool having a second jaw which is fixed to one of said handles, said first jaw being pivotally mounted to said second jaw, a first member engageable with said first jaw and having a first indent and a second indent, a pair of stops provided on said first jaw, a second member having a first end and a second end, said first end being pivotally mounted to said first jaw, a normally expanded spring attached to said second member, a pin attached to said normally expanded spring and selectively engageable with one of said first indent of said first member and said second indent of said first member, and a normally contracted spring attached to said first jaw and said second jaw;

15            b)      positioning said first jaw to said closed position such that said normally contracted spring is expanded, said pin is engaged with said first indent of said first member, and said second member abutting against one of said stops provided on said first jaw;

                 c)      pushing said second member against said one of said stops;

                 d)      forcing said pin from said first indent to said second indent;

20            e)      contracting said normally contracting spring;

                 f)      moving said first jaw from said closed position to said open position; and

                 g)      forcing said pin from said second indent to said first indent.